

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A plunger return spring for use in a well in an hydraulic valve lifter wherein said well has a diameter **D** and wherein the non-compressed length **L** of said plunger return spring is greater than said diameter **D**.
2. (Original) A pin housing sub-assembly for use in a valve deactivation hydraulic valve lifter, said sub-assembly including a plunger return spring disposed in a well in said pin housing sub-assembly wherein said well has a diameter **D** and wherein the non-compressed length **L** of said plunger return spring is greater than said diameter **D**.
3. (Original) A pin housing sub-assembly in accordance with Claim 2 further comprising:
 - a) a plunger sub-assembly disposed against said spring;
 - b) a pushrod seat assembly spaced apart from said plunger sub-assembly to provide a hydraulic chamber therebetween within said pin housing;
 - c) an annular groove formed in said pin housing; and
 - d) an expansion ring disposed in said annular groove,

said expansion ring being removable from said groove by a spring tower to become a locking ring between said pin housing and said spring tower during assembly of said hydraulic valve lifter.

4. (Original) A valve deactivation hydraulic valve lifter for use in an internal combustion engine, comprising a pin housing sub-assembly including a plunger return spring disposed in a well in said pin housing sub-assembly wherein said well has a diameter **D** and wherein the non-compressed length **L** of said plunger return spring is greater than said diameter **D**.

5. (Original) A valve deactivation hydraulic valve lifter in accordance with Claim 4 wherein said pin housing sub-assembly further comprises:

- a) a plunger sub-assembly disposed against said spring;
- b) a pushrod seat assembly spaced apart from said plunger sub-assembly to provide a hydraulic chamber therebetween within said pin housing;
- c) an annular groove formed in said pin housing; and
- d) an expansion ring disposed in said annular groove, said expansion ring being removable from said groove by a spring tower to become a locking ring between said pin housing and said spring tower during assembly of said hydraulic valve lifter.

6. (New) A pin housing sub-assembly for use in a valve deactivation hydraulic valve lifter, said pin housing sub-assembly comprising:

- a pin housing;
- a plunger return spring disposed in a well in said pin housing;
- a plunger sub-assembly disposed against said spring;
- a pushrod seat assembly spaced apart from said plunger sub-assembly to provide a hydraulic chamber therebetween within said pin housing;
- a first groove formed in said pin housing;
- a second groove formed in said pin housing, said second groove being positioned between said first groove and an open end of said pin housing; and
- an expansion member disposed in said second groove, said expansion member adapted to be moved from said second groove and into the first groove so that said pin housing is coupled with a spring tower during the assembly of said hydraulic valve lifter.

7. (New) A pin housing sub-assembly in accordance with Claim 6 wherein the depth of said second groove is between .004 inches and .005 inches.

8. (New) A pin housing sub-assembly in accordance with Claim 6 wherein the depth of said first groove is greater than the depth of said second groove.

9. (New) A pin housing sub-assembly in accordance with Claim 6 wherein an inner edge of said second groove is chamfered.
10. (New) A pin housing sub-assembly in accordance with Claim 9 wherein said inner edge of said second groove is chamfered about 15 degrees.
11. (New) A pin housing sub-assembly in accordance with Claim 6 wherein said first groove is annular.
12. (New) A pin housing sub-assembly in accordance with Claim 6 wherein said second groove is annular.
13. (New) A pin housing sub-assembly in accordance with Claim 6 wherein said spring tower includes a beveled edge that operates to move said expansion member from said second groove into said first groove.
14. (New) A method for assembling a pin housing sub-assembly for use in a valve deactivation hydraulic valve lifter, wherein said pin housing sub-assembly includes a pin housing, a plunger return spring, a plunger sub-assembly, a pushrod seat assembly, an expansion ring, a first groove formed in the pin housing, and a second annular groove formed in the pin housing and positioned between the first annular groove and an open end of the pin housing, said method comprising:
disposing the plunger return spring in a well in the pin housing;

disposing the plunger sub-assembly against said spring;
spacing the pushrod seat assembly apart from the plunger sub-assembly to provide a hydraulic chamber therebetween within the pin housing; and
disposing the expansion ring in the second annular groove thereby retaining the plunger return spring, the plunger sub-assembly, and the pushrod seat assembly within the pin housing to form the assembled pin housing sub-assembly.

15. (New) The method in accordance with Claim 14, further comprising:

providing a spring tower;
moving the expansion ring out of the second annular groove and into the first annular groove to couple the spring tower with the pin housing.

16. (New) The method in accordance with Claim 15 wherein the spring tower includes a beveled edge, and wherein the beveled edge moves the expansion ring out of the second annular groove and into the first annular groove.

17. (New) The method in accordance with Claim 16 wherein the spring tower includes a ring groove, and wherein the expansion ring is positioned within both the first annular groove and the ring groove.